

What is claimed is:

1. An energy recovering apparatus of a plasma display panel, comprising:

5 a first path for charging an inductor using energy from a source capacitor; and

a second path, being separated from the source capacitor, for supplying energy of the inductor to the plasma display panel.

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2. The energy recovering apparatus as claimed in claim 1, further comprising:

a third path for charging a voltage from a sustain voltage source into the panel;

15 a fourth path for recovering energy charged in the panel to charge the recovered energy, via the inductor, into the source capacitor; and

a fifth path for charging a voltage from a ground voltage source into the panel.

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3. The energy recovering apparatus as claimed in claim 1, wherein the first path includes:

25 a first switching device connected between a second terminal of the source capacitor connected to a ground voltage source and a first terminal of the inductor; and

a second switching device connected between a second terminal of the inductor and the ground voltage source.

30 4. The energy recovering apparatus as claimed in claim 3, wherein the first and second switching devices keep a turned-on state during a period when energy from the source capacitor is charged in the inductor through the

first path, and shut off the first path in a state in which energy has been charged in the inductor to thereby derive an inverse voltage into the inductor.

- 5 5. The energy recovering apparatus as claimed in claim 4, wherein the second path includes:

a third switching device connected between the second terminal of the inductor and the panel; and

- 10 a diode connected between a node positioned between the first terminal of the inductor and the first switching device and the ground voltage source to form a path for applying energy from the inductor to the panel.

6. The energy recovering apparatus as claimed in claim 5, wherein the third switching device is turned on when the first and second switching devices are turned off, to thereby apply said inverse voltage derived into the inductor to the panel.

- 20 7. The energy recovering apparatus as claimed in claim 2, wherein the third path includes:

a fourth switching device connected between the sustain voltage source and the panel.

- 25 8. The energy recovering apparatus as claimed in claim 5, wherein the fourth path includes:

the first switching device and the third switching device.

- 30 9. The energy recovering apparatus as claimed in claim 8, wherein each of the second and fourth paths further includes:

a fifth switching device connected between the inductor and the third switching device.

10. The energy recovering apparatus as claimed in claim 9,
5 wherein each of the first to third switching device is connected, in parallel, with a first diode having a first bias direction, and the fifth switching device is connected, in parallel, with a second diode having a second direction which is contrary to the first bias
10 direction.

11. The energy recovering apparatus as claimed in claim 10, wherein the fifth switching device becomes a turned-off at the second path while it becomes a turned-on state
15 at the fourth path.

12. An energy recovering method for a plasma display panel, comprising the steps of:

(A) charging energy from a source capacitor into an
20 inductor using a first path including the source capacitor and the inductor; and

(B) applying energy of the inductor to the panel using a second path that is separated from the source capacitor and includes the inductor and the plasma display
25 panel.

13. The energy recovering method as claimed in claim 12, further comprising the steps of:

(C) charging a voltage from a sustain voltage source
30 into the panel using a third path including the sustain voltage source and the panel;

(D) recovering energy charged in the panel to charge

the recovered energy into the source capacitor using a fourth path including the panel, the inductor and the source capacitor; and

5 (E) charging a voltage from the ground voltage source into the panel using a fifth path including the ground voltage source and the panel.

14. The energy recovering method as claimed in claim 12, wherein said (A) step includes:

10 charging energy from the source capacitor into the inductor through the first path; and

shutting off the first path in a state in which energy has been charged in the inductor to thereby derive an inverse voltage into the inductor.

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15. The energy recovering method as claimed in claim 14, wherein said (B) step includes:

charging said inverse voltage derived into the inductor to the panel through the second path.

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